DATE: March 14, 1989

TO: Division of Shellfish Sanitation Staff

THROUGH: Eric H. Bartsch, P.E., Director
Office of Water Programs

FROM: Cloyde W. Wiley, Director
Division of Shellfish Sanitation

SUBJECT: Plants - Booster Pumps

This working memo is intended to explain the potential backflow problem that booster pumps can cause and the method for correcting that problem.

Booster pumps are pumps that are connected to the water supply downline of the well pump and pressure tank, or in the case of a municipal supply, anywhere in the plant. These pumps are generally connected to the existing plumbing to provide a high pressure water flow at a specific place for fast effective plant clean up.

The major public health concern is that the pump can pull more water than the supply line can offer, and thus the booster pump then causes a suction to form downline from the pump, i.e. on the suction side. This suction may then activate any cross connection existing in the plant resulting in a backflow.

To prevent this potential for backflow, a low pressure cut off switch must be installed on the suction side of the pump set at 10 psi + 2 psi. Pressure within water lines in a plant is usually greater than 15 or 20 psi. If a booster pump begins to pull more water than the system can deliver, the pressure on the suction side drops. A low pressure cut off switch installed on the suction side will turn off the pump as the water pressure in the supply side of the pump falls to the preset cut off level. By momentarily shutting off the booster pump, pressure within the water line can build back up and the booster pump can come back on without causing a potential backflow problem.

All booster pumps in shellfish or crustacea plants that are attached to the potable water systems must have low pressure cut off switches. The more expensive models have a built in switch, whereas the cheaper models need to have one installed on the suction side of the pump.

Low pressure cut off switches are available in Richmond at W. W. Granger, phone # 649-0731, and Automatic Controls, phone # 321-7177.

CWW:REC/bjm